

Amendments to the Claims

Claims 1-42 (Canceled).

43. (New): An ion implant lithography method of processing a semiconductor substrate comprising:

forming a layer to be etched over a semiconductor substrate;

forming an imaging layer of a selected thickness over the layer to be etched;

ion implanting selected regions of the imaging layer to change solvent solubility of implanted regions versus non-implanted regions of the imaging layer, said ion implanting forming innermost peak implant concentrations which are spaced elevationally outward from the layer to be etched;

removing the ion implanted regions of the imaging layer to leave a pattern of openings in the imaging layer; and

after the removing, etching the layer to be etched through the imaging layer openings using the imaging layer as an etch mask by first blanket etching the imaging layer and the layer to be etched using an etch chemistry that is substantially selective to the imaging layer and then etching into the layer to be etched substantially selectively to the imaging layer.

44. (New): The method of claim 43 wherein the imaging layer is organic.

45. (New): The method of claim 43 wherein the imaging layer comprises organic photoresist.

46. (New): The method of claim 43 wherein the ion implanting forms the selected regions to have innermost peak implant concentrations which are spaced elevationally outward of the layer to be etched by about 50 Angstroms to about 5000 Angstroms.

47. (New): The method of claim 43 wherein the ion implanting forms the selected regions to have innermost peak implant concentrations which are spaced elevationally outward of the layer to be etched by about 200 Angstroms to about 2000 Angstroms.

48. (New): The method of claim 43 wherein the ion implanting forms the selected regions to have innermost peak implant concentrations which are spaced elevationally outward of the layer to be etched by about 200 Angstroms to about 2000 Angstroms.

49. (New): The method of claim 43 wherein the imaging layer consists essentially of organic photoresist.

50. (New): The method of claim 43 wherein the imaging layer consists essentially of a single, homogeneous layer.

51. (New): The method of claim 43 wherein the layer to be etched is conductive.

52. (New): The method of claim 43 wherein the layer to be etched is semiconductive.

53. (New): The method of claim 43 wherein the layer to be etched is insulative.

54. (New): The method of claim 43 wherein the layer to be etched comprises polysilicon.

55. (New): The method of claim 43 wherein the removing comprises wet solvent processing.

56. (New): The method of claim 43 wherein the ion implanting comprises hydrogen ions.

57. (New): The method of claim 43 wherein the ion implanting comprises helium ions.

58. (New): The method of claim 43 wherein the semiconductor substrate comprises silicon